ORDER NO. HAD8607645A4

Service Manual

Turntable System

DIRECT DRIVE
Automatic Turntable System

SL-DD33

Color

(S) ..... Silver Type
(K) ..... Black Type

Color	Areas
(S) (K)	[PA] ... Far East PX.
(S) (K)	[PE] ... European Military.
(S) (K)	[PC] ... European Audio Club.

Please use this manual together with the service manual for Model No. SL-DD33, Order No. HAD8605505C0.

CHANGES

■ CHANGES IN REPLACEMENT PARTS LIST

Note: • Mentioned in this parts list are only those parts different from Model SL-DD33 for destination [XA] area; all other parts are same as for SL-DD33 for destination [XA] area.

Ref. No.	Change of Part No.		Part Name & Description	Per Set (Pcs.)	Remarks
	[XA]	[PA, PE, PC]			
CABINET AND CHASSIS PARTS					
17	SGTB68	**SGTB66**	Name Plate	1	Change
TONEARM PARTS					
42	EPC-P30S	**EPC-P30AK**	★ Cartridge	1	Change
43	EPS-30CS	**EPS-30ES**	★ Stylus	1	Change
ACCESSORIES					
A1	SQX53810	**SQXLDD33-SPA**	Instruction Book	1	Change

Technics

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Printed in Japan
860700850 Ⓢ HS

ORDER NO. HAD8605505C0
A2

Service Manual

SL-DD33

DIRECT DRIVE
Automatic Turntable System

Turntable System

SL-DD33

Color	Areas
(S) (K)	[M] ..... U.S.A.
(S) (K)	[MC] ... Canada.
(S) (K)	[E] ..... Switzerland and Scandinavia.
(S) (K)	[EK] .... United Kingdom.
(S) (K)	[XL] .... Australia.
(S) (K)	[EG] ... F.R. Germany.
(S) (K)	[EB] .... Belgium.
(S) (K)	[EH] .... Holland.
(S) (K)	[EF] .... France.
(S) (K)	[Ei] ..... Italy.
(S) (K)	[EC] .... Czechoslovakia.
(S) (K)	[XA] .... Asia, Latin America, Middle Near East, Africa and Oceania.

Color

(S)..... Silver Type
(K) .... Black Type

Note:
Only models for U.S.A. and Canada are not provided with cartridge.

T4P is the standard mark for plug-in-connector system. Products carrying this mark are interchangeable and compatible with each other.

SPECIFICATIONS

■ TURNTABLE SECTION

Type: Automatic turntable
Features: Auto-start
Auto-return
Auto-stop
Repeat play
Manual play
Drive method: Direct drive
Motor: Brushless-DC motor
Drive control method: FG method phase locked control
Turntable platter: Aluminum die-cast
Diameter 31.2 cm (12-9/32")
Turntable speeds: 33-1/3 rpm and 45 rpm
Wow and flutter: 0.012% WRMS*
0.025% WRMS (JIS C5521)
±0.035% Weighted zero to peak
(IEC 98A weighted)
Rumble: −78 dB DIN-B
(IEC 98A weighted)
−56 dB DIN-A
(IEC 98A unweighted)

■ TONEARM SECTION

Type: Static-balanced straight tonearm
Plug-in-connector cartridge system
Overhang: 15 mm (19/32")
Effective length: 230 mm (9-1/16")
Tracking error angle: Within 0°32' at inner groove of 30 cm (12") record
Within 2°32' at outer groove of 30 cm (12") record
Effective mass: 13.5 g (including cartridge)
Stylus pressure: 1.25 g (Fixed)
Applicable cartridge weight: 6 g
Phono cable capacitance: 90 pF

Note:
*This rating refers to turntable assembly alone, excluding effects of record, cartridge or tonearm, but including platter. Measured by obtaining signal from built-in frequency generator of motor assembly.

Technics

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P.O. Box 288, Central Osaka Japan

■ CARTRIDGE SECTION
(Except for U.S.A. and Canada)

Type:	Moving magnet stereo cartridge
Magnet circuit:	All-laminated core
Frequency response:	10 Hz~35 kHz
Output voltage:	2.5 mV at 1 kHz, 5 cm/s. zero to peak lateral velocity (7 mV at 1 kHz, 10 cm/s. zero to peak, 45° velocity [DIN 45 500])
Channel separation:	22 dB at 1 kHz
Channel balance:	Within 2 dB at 1 kHz
Recommended load impedance:	47 kΩ~100 kΩ
Compliance (dynamic):	12×10^{-6} cm/dyne at 100 Hz
Stylus pressure range:	1.25±0.25 g
Weight:	6 g (cartridge only)
Replacemant stylus:	EPS-30CS

■ GENERAL

Power supply:	For U.S.A. and Canada: AC 120V, 60 Hz For United Kingdom and Australia: AC 240V, 50 Hz For Continental Europe: AC 220V, 50 Hz For Others: AC 110~127/220~240V, 50/60 Hz
Power consumption:	5 W
Dimensions (W×H×D):	430×100×375 mm (16-15/16"×3-15/16"×14-3/4") When dust cover is open: 430×370×410 mm (16-15/16"×14-5/32"×16-1/8")
Weight:	4.5 kg (9.9 lb.)

Specifications are subject to change without notice for further improvement.
Weight and dimensions shown are approximate.

■ CONTENTS

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■ SAFETY PRECAUTION

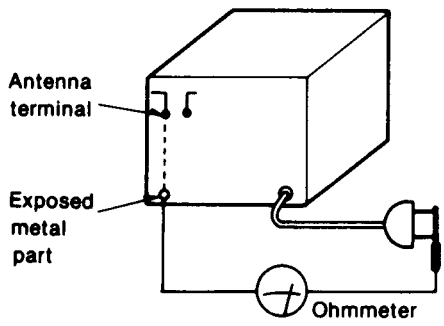
(This "safety precaution" is applied only in U.S.A.)

1. Before servicing, unplug the power cord to prevent an electric shock.
2. When replacing parts, use only manufacturer's recommended components for safety.
3. Check the condition of the power cord. Replace if wear or damage is evident.
4. After servicing, be sure to restore the lead dress, insulation barriers, insulation papers, shields, etc.
5. Before returning the serviced equipment to the customer, be sure to make the following insulation resistance test to prevent the customer from being exposed to a shock hazard.

• INSULATION RESISTANCE TEST

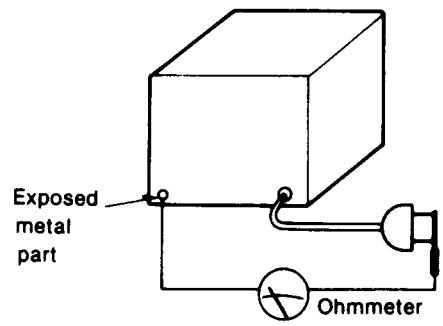
1. Unplug the power cord and short the two prongs of the plug with a jumper wire.
2. Turn on the power switch.
3. Measure the resistance value with ohmmeter between the jumpered AC plug and each exposed metal cabinet part, such as screwheads, antenna, control shafts, handle brackets, etc. Equipment with antenna terminals should read between 3MΩ and 5.2MΩ to all exposed parts. (Fig. A) Equipment without antenna terminals should read approximately infinity to all exposed parts. (Fig. B)

Note: Some exposed parts may be isolated from the chassis by design. These will read infinity.



(Fig. A)

Resistance = 3MΩ—5.2MΩ



(Fig. B)

Resistance = Approx ∞

4. If the measurement is outside the specified limits, there is a possibility of a shock hazard. The equipment should be repaired and rechecked before it is returned to the customer.

ORDER NO. HAD8605505C0-A

DIRECT DRIVE Automatic Turntable System

SL-DD33

DEUTSCH

■ MESSUNGEN UND JUSTIERUNGEN

JUSTIERUNG DER TONAMLIFTHÖHE

Die Tonarmilifthöhe, d.h. der Abstand zwischen Nadelspitze und Schallplattenoberfläche bei Liftsteuerungs-Position "▼", wurde werkseitig auf ca. 5 ~ 7 mm eingstellt. Falls der Abstand zu groß oder zu klein ist (z.B. wegen unterschiedlicher Tonabnehmergröße), drehen Sie die Justierschraube im Uhrzeigersinn oder entgegen dem Uhrzeigersinn.

Drehung im Uhrzeigersinn

—Der Abstand zwischen der Platte und der Nadelspitze wird kleiner.

Drehung entgegen dem Uhrzeigersinn

—Der Abstand zwischen der Platte und der Nadelspitze wird größer.

JUSTIERUNG DES AUFSETZPUNKTES DER AUTOMATIK

Wenn der Tonarm in der Nähe der Plattenmitte ist, so ist die Auto-Rückkehr-Justierschraube sichtbar.

Wenn die Abtastnadel nicht in der Einlaufrille aufsetzt, justieren Sie wie folgt.

1. Befestigen Sie den Tonarm mit der Arretierklammer auf der Tonarmablage.
2. Nehmen Sie die Gummikappe von der Auto-Start-Positions-Justierschraube ab.
3. Drehen Sie die Justierschraube im Uhrzeigersinn oder entgegen dem Uhrzeigersinn, wie erforderlich.

Falls der Aufsetzpunkt im Wiedergabeteil der Schallplatte liegt,

—Entgegen dem Uhrzeigersinn drehen.

Falls der Aufsetzpunkt außerhalb der Platte liegt,

—Im Uhrzeigersinn drehen.

Justieren Sie so, daß die Nadelspitze 1—2 mm vom Rand entfent auf der Platte aufsetzt.

JUSTIERUNG DES ABSCHALTPUNKTES DER AUTOMATIK

(Die Platte abnehmen.)

Machen Sie diese Einstellung, wenn der Tonarm nicht auf die Tonarmstütze zurückgestellt wird, oder wenn er bereits vor dem Plattenende zurückgestellt wird.

Falls der Tonarm zu früh zurückkehrt.

—Entgegen dem Uhrzeigersinn drehen.

Falls der Tonarm nach Erreichen der Auslaufrille nicht zurückkehrt.

—Im Uhrzeigersinn drehen.

FRANÇAIS

■ MESURAGES ET REGLAGES

MISE AU POINT DE LA HAUTEUR DE L'ÉLÉVATEUR DU BRAS

La hauteur de l'élévateur du bras (distance entre l'extrémité de la pointe de lecture et la surface du disque, lorsque la commande de pose et de relevage est à la position "▼") à été réglée en usine sur approximativement 5 à 7 mm.

Si l'écartement est trop étroit ou trop large, tourner la vis de réglage dans le sens des aiguilles d'une montre ou dans le sens contraire.

Rotation dans le sens des aiguilles d'une montre.

—La distance entre la surface du disque et l'extrémité de la pointe de lecture diminue.

Rotation dans le sens contraire des aiguilles d'une montre.

—La distance entre la surface du disque et l'extrémité de la pointe de lecture augmente.

MISE AU POINT DE LA POSITION DE DEMARRAGE AUTOMATIQUE

Si la pointe de lecture ne repose pas dans le sillon d'entrée, ajuster de la manière suivante.

1. Bloquer le bras de lecture sur le support du bras.
2. Retirer le capuchon en caoutchouc.
3. Avec un tournevis, tourner la vis de réglage dans le sens des aiguilles d'une montre ou dans le sens inverse selon la nécessité.

Si la tête de la pointe de lecture se dépose trop loin du sillon enregistré,

—tourner dans le sens contraire des aiguilles d'une montre.

Si la tête de la pointe de lecture se dépose en dehors du disque,

—tourner dans le sens des aiguilles d'une montre.

Ajuster de façon à ce que l'extrémité de la pointe de lecture atterrisse à 1—2 mm à partir du bord du disque.

MISE AU POINT DE LA POSITION DE RETOUR AUTOMATIQUE

(Retirer la platine.)

Effectuer ce réglage si le bras de lecture ne revient pas sur le repose-bras à la fin de la lecture, ou s'il revient avant que la lecture soit terminée.

Si le bras de lecture tend à revenir vers le support du bras avant que l'audition ne soit terminée.

—tourner dans le sens contraire des aiguilles d'une montre.

Si le bras de lecture ne peut revenir en arrière après le dernier sillon.

—tourner dans le sens des aiguilles d'une montre.

ESPAÑOL

■ MEDICIONES Y AJUSTE

AJUSTE DE LA ALTURA DE ELEVACIÓN DEL BRAZO

La altura de elevación del brazo (o sea, la distancia entre la punta de la aguja y la superficie del disco cuando el control de colocación esté en la posición "▼") has sido regulada en la fàbrica aproximadamente entre 5 y 7 mm. En caso que la distancia fuese demasiado abundante o demasiado escasa, girar el tornillo de ajuste hacia la derecha o hacia la izquierda.

Rotación hacia la derecha

—reduce la distancia entre el disco y la punta de la aguja.

Rotación hacia la izquierda

—aumenta la distancia entre el disco y la punta de la aguja.

AJUSTE DE LA POSICION PARA EL ARRANQUE AUTOMATICO

En caso que la aguja no se depositara en el surco de comienzo, regular de la manera que sigue.

1. Sujetar el brazo sonoro al apoyo del mismo con la grapa.
2. Quitar la tapita de goma.
3. Girar el tornillito de ajuste hacia la derecha o hacia la izquierda usando un destornillador, según sea necesario.

En caso que la punta de la aguja se deposita muy dentro del surco grabado,

—Girar hacia la izquierda.

En caso que la punta de la aguja se deposita fuera del disco,

—Girar hacia la derecha

Regular de manera tel que la punta de la aguja se deposite a uno o dos milímetros del borde del disco.

AJUSTE DE LA POSICIÓN PARA RETORNO AUTOMATICO

(Quitar el tablero.)

Realizar este ajuste si el brazo fonocaptor no vuelve automáticamente al descanso o cuando vuelve antes de terminar el disco.

Cuando el brazo sonoro tienda a volver a su apoyo antes de terminar la ejecución.

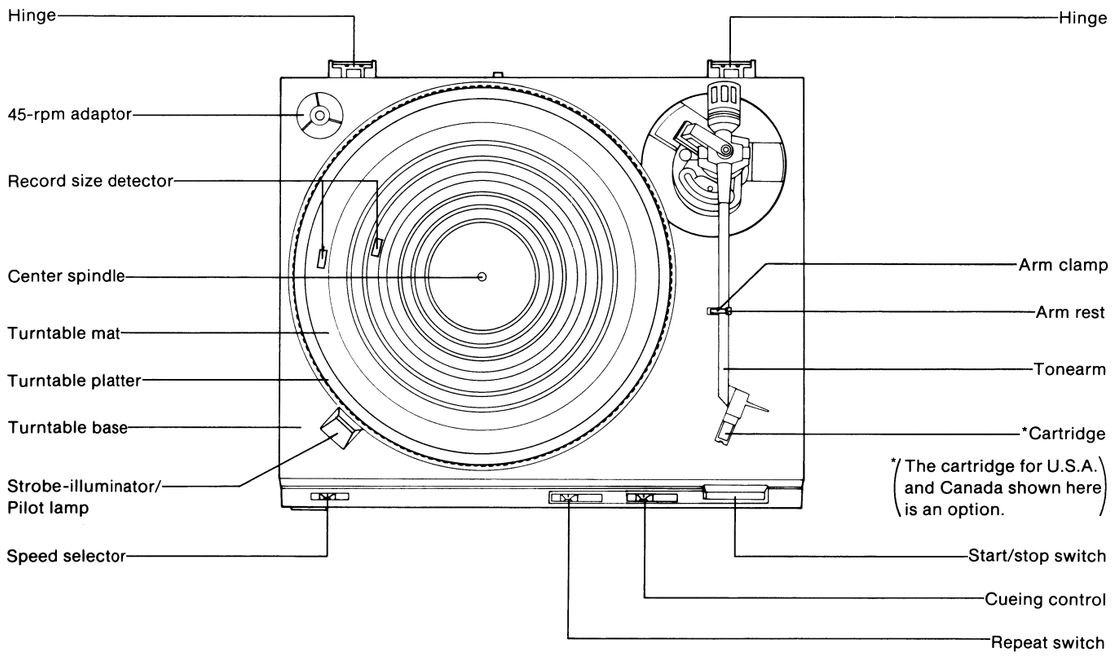
—Girar hacia la izquierda.

En caso que el brazo sonoro no vuelva después de haber tocado el último surco del disco.

—Girar hacia la derecha.

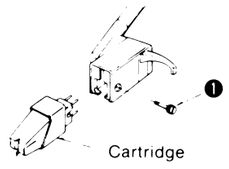
Printed in Japan
860506200 Ⓢ HS
860700850 Ⓢ HS

■ LOCATION OF CONTROLS

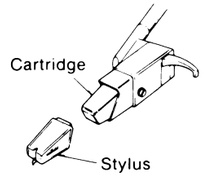


■ DISASSEMBLY INSTRUCTIONS

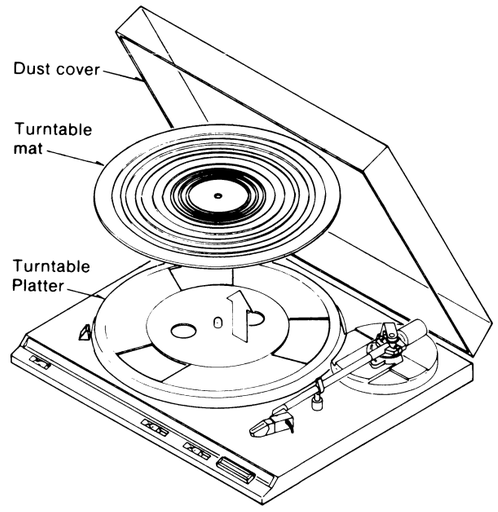
Ref. No 1	How to remove the cartridge
Procedure 1	1. Remove the setscrew ❶. 2. Pull out the cartridge, taking care that your hand does not touch the stylus tip.



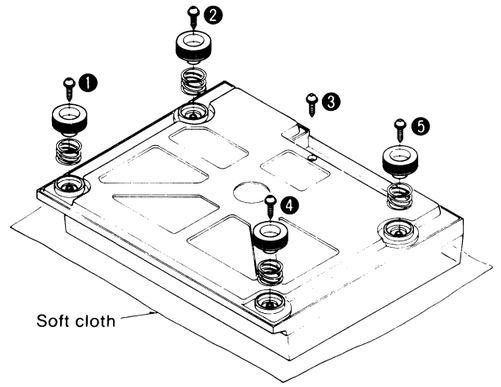
Ref. No 2	How to remove the stylus
Procedure 2	• Pull out the stylus, taking care not to touch the stylus tip.



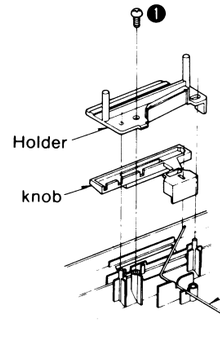
Ref. No 3	How to remove the turntable platter
Procedure 3	1. Open the dust cover and remove the turntable mat. 2. Lift up the turntable platter.



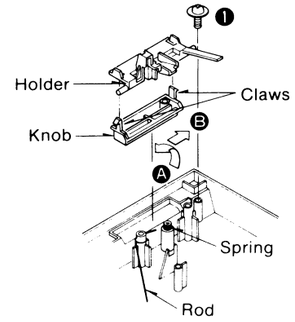
Ref. No 4	How to remove the bottom board
Procedure 3 ▸ 4	1. Turn over the unit on a soft cloth. 2. Remove the 5 setscrews (❶ ~ ❺).



Ref. No 5	How to remove the cueing knob
Procedure 3 ▸ 4 ▸ 5	• Remove the setscrew ❶.



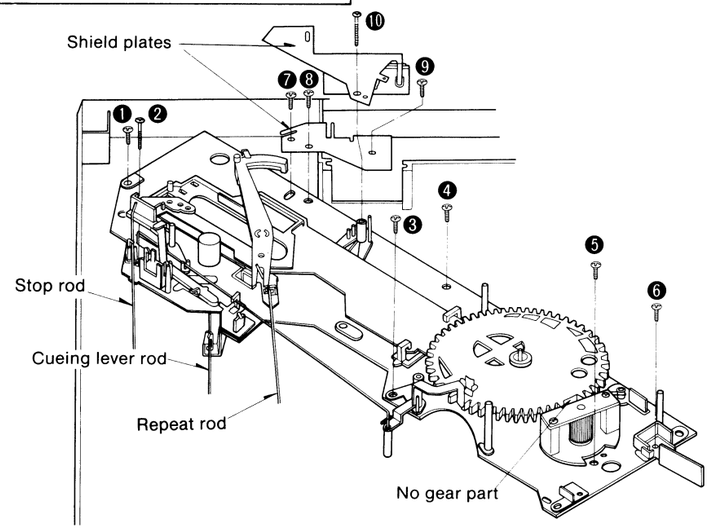
Ref. No 6	How to remove the start/stop switch knob
Procedure 3 ▸ 4 ▸ 6	1. Remove the setscrew ❶. 2. Remove the holder (with knob) in the direction of the arrows (Ⓐ, Ⓑ). 3. Release the 2 claws.



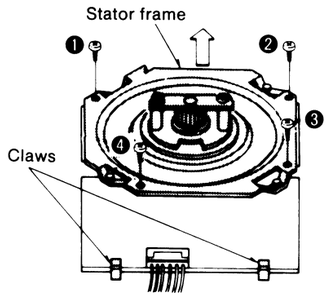
Note:
When attaching the start/stop knob, do not forget to attach the spring.

Ref. No 7	How to remove the automatic mechanism plate
Procedure 3 ▸ 4 ▸ 7	1. Remove the stop rod, cueing lever rod and repeat rod. 2. Remove the 10 screws (❶~⑩). 3. Remove the 2 shield plates. 4. Lift up the automatic mechanism plate.

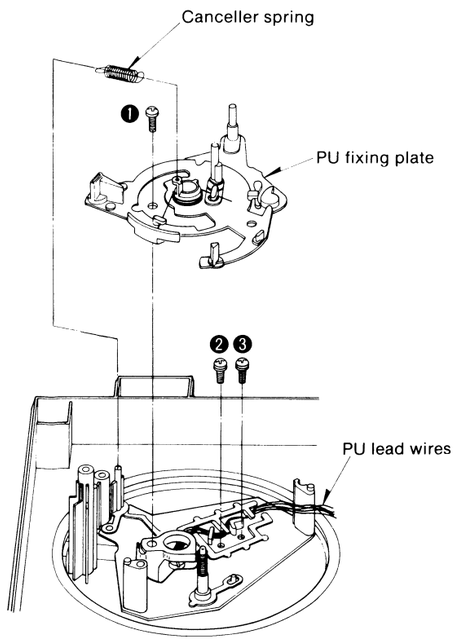
Note:
When fitting the automatic mechanism plate, check the following point.
- Turn the main gear until it comes to the no gear part.



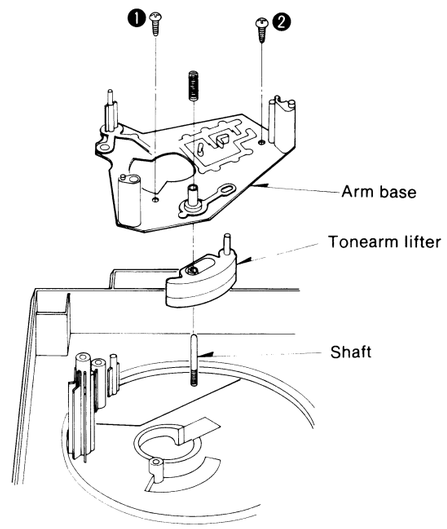
Ref. No. 6	How to remove the stator frame
Procedure 1➧2➧5➧6	1. Remove the 4 setscrews (❶ ~ ❹). 2. Remove the stator frame from the 2 claws in the direction of the arrow.



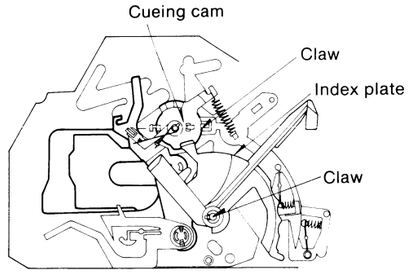
Ref. No. 7	How to remove the tonearm
Procedure 1➧2➧5➧7	1. Remove the PU fixing plate setscrew ❶ and the canceller spring. 2. Unsolder the 5 PU lead wires from the phono terminal. 3. To remove the tonearm, remove the 2 setscrews (❷, ❸). * PU lead wiring method. White ..... L channel (+) terminal Blue ..... L channel (−) terminal Red ..... R channel (+) terminal Green ..... R channel (−) terminal Black ..... Ground terminal



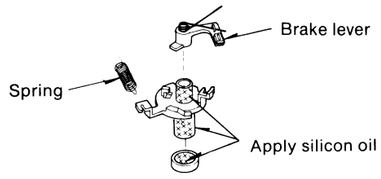
Ref. No. 8	How to remove the armbase and lifter
Procedure 1➧2➧5➧7➧8	1. Remove the 2 setscrews (❶, ❷). Then the arm base can be removed. 2. To remove the tonearm lifter, remove the spring and the shaft.



Ref. No. 9	How to remove the cueing cam
Procedure 1➧2➧5➧7➧9	1. Release the claw and remove the index plate. 2. Remove the spring. 3. Release the claw.



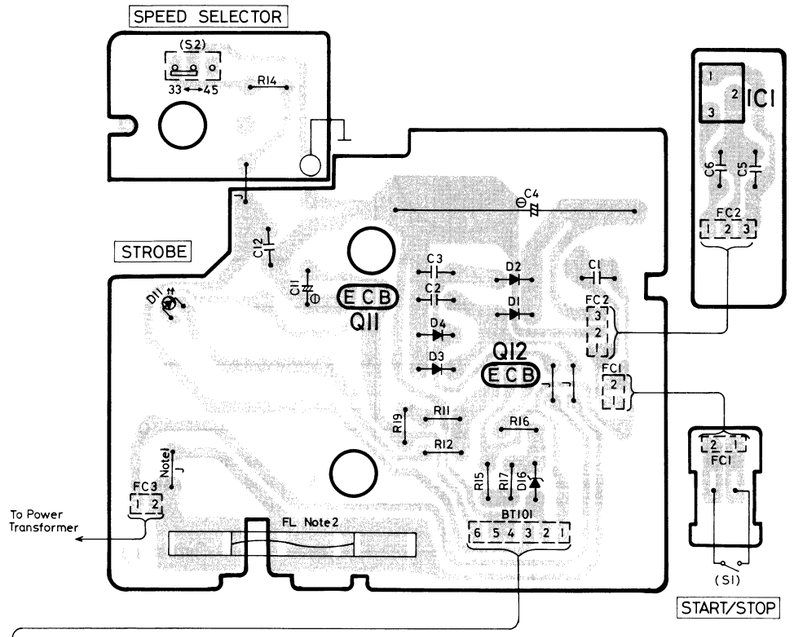
4. Pull out the cueing cam.



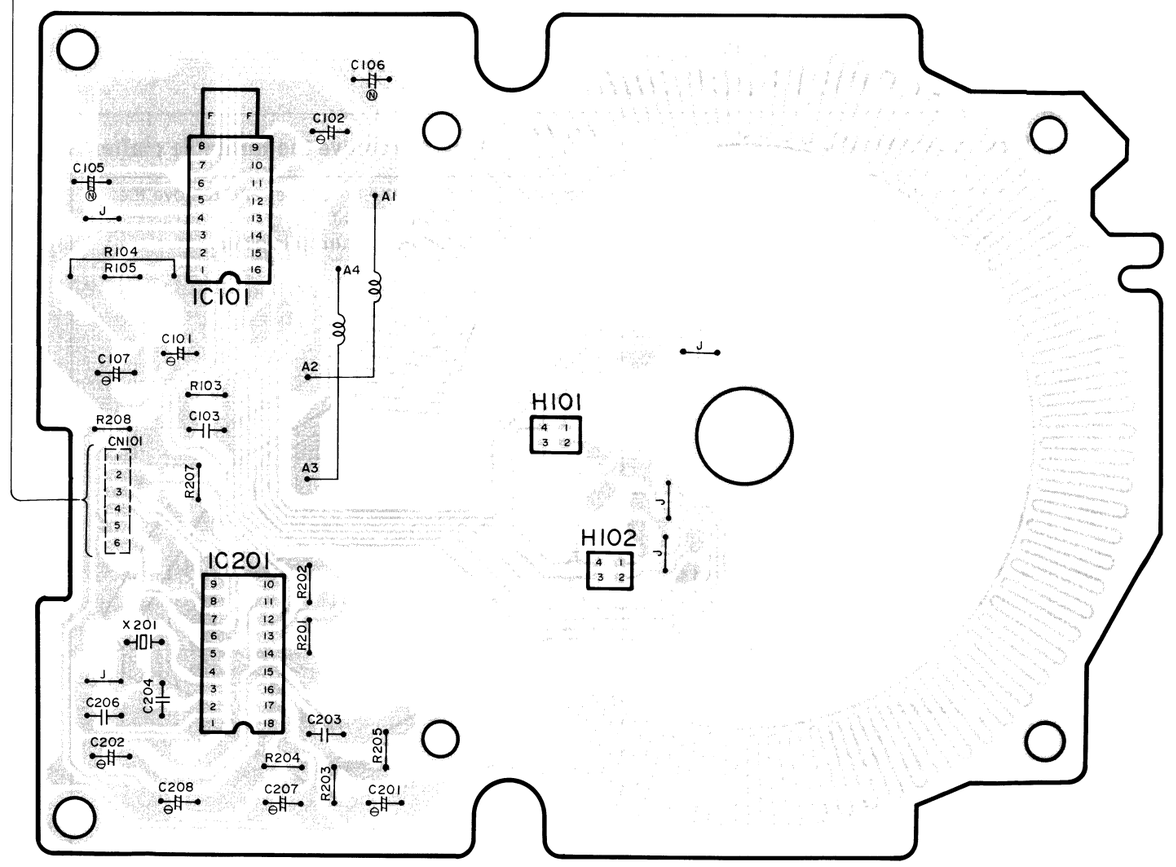
Note:
If the cueing time of the tonearm becomes too short, or if the cueing cam is replaced, apply silicon oil (Part No. SZZOL11) according to the following procedure.

1. Remove the cueing cam and brake lever.
2. Apply silicon oil to the cueing cam and oil tank.

■ CIRCUIT BOARD AND WIRING CONNECTION DIAGRAM

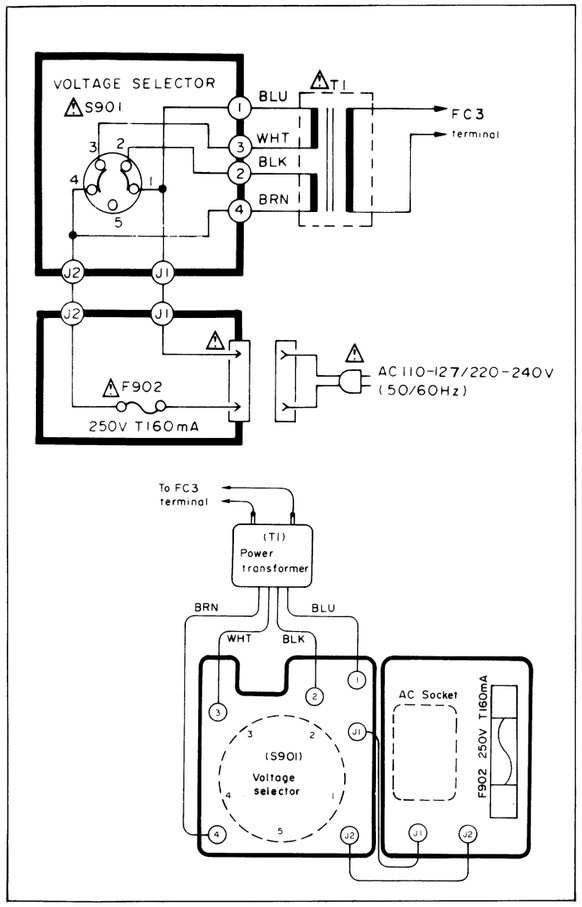


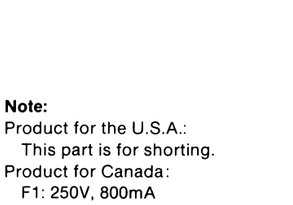
Notes: 1. This jumper wire is only for the product for the U.S.A.
2. This fuse (F1) is for the product for areas other than the U.S.A.
F1: Product for Canada:
250V, 800mA
Product for other areas:
250V, T500mA



■ SCHEMATIC DIAGRAM

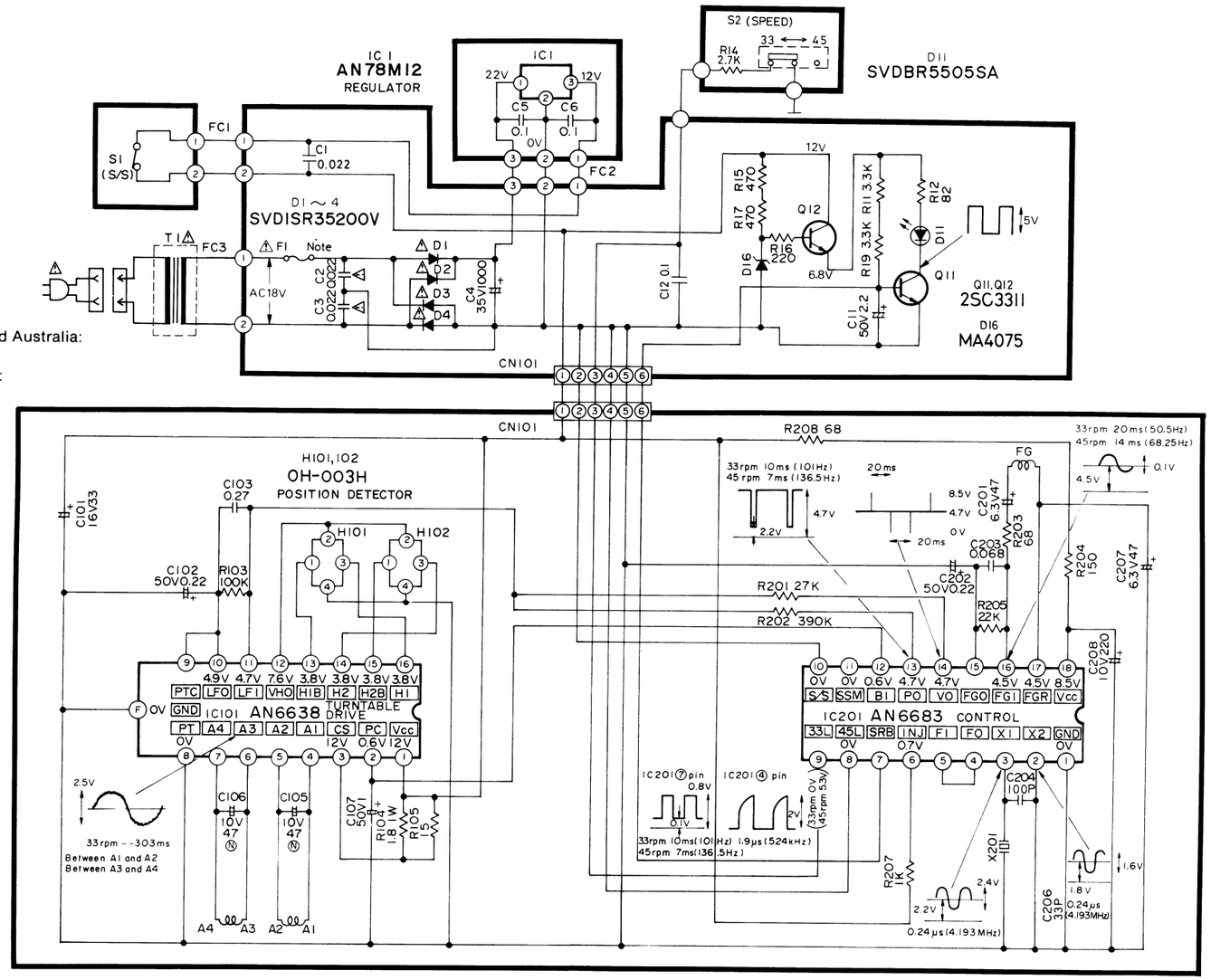
• Power Source Circuit For [XA] Area





Note:
Product for the U.S.A.:
This part is for shorting.
Product for Canada:
F1: 250V, 800mA
Product for other areas:
F1: 250V, T500mA

For U.S.A. and Canada:
AC 120V, 60 Hz
For United Kingdom and Australia:
AC 240V, 50 Hz
For Continental Europe:
AC 220V, 50 Hz



Notes:
1. **S1** : START/STOP (power) switch in "**on**" position.
2. **S2** : Speed selector switch in "**33**" position.
3. **S901** : Voltage selector switch. (For [XA] area only.)
4. The voltage value, and waveforms are the reference voltage values of this unit measured by DC electronic voltmeter (high impedance) and oscilloscope on the basis of chassis when the unit is in play.
5. Important safety notice:
   Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.
6. This schematic diagram may be modified at any time with development of new technology.

★ Caution!

IC and LSI are sensitive to static electricity.
Secondary trouble can be prevented by taking care during repair.
- ★ Cover the parts boxes made of plastics with aluminum foil.
- ★ Ground the soldering iron.
- ★ Put a conductive mat on the work table.
- ★ Do not touch the legs of IC or LSI with the fingers directly.

• Product for MC only

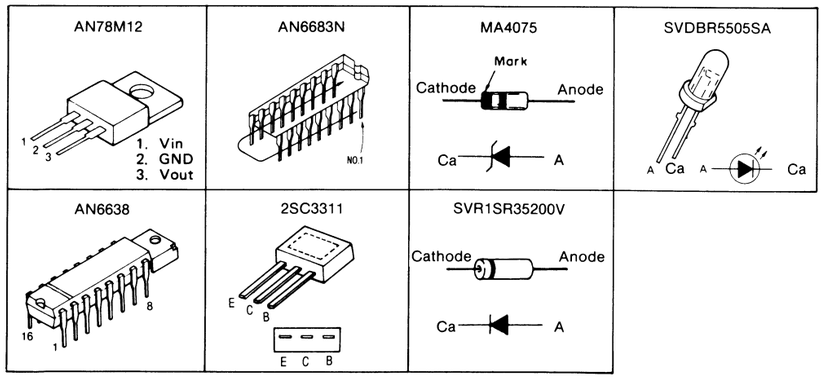
FUSE REPLACEMENT

⏛ symbol located near the fuse indicates fast-operating type. For continued protection against fire hazard, replace with same type fuse. Refer to the symbol for fuse rating.

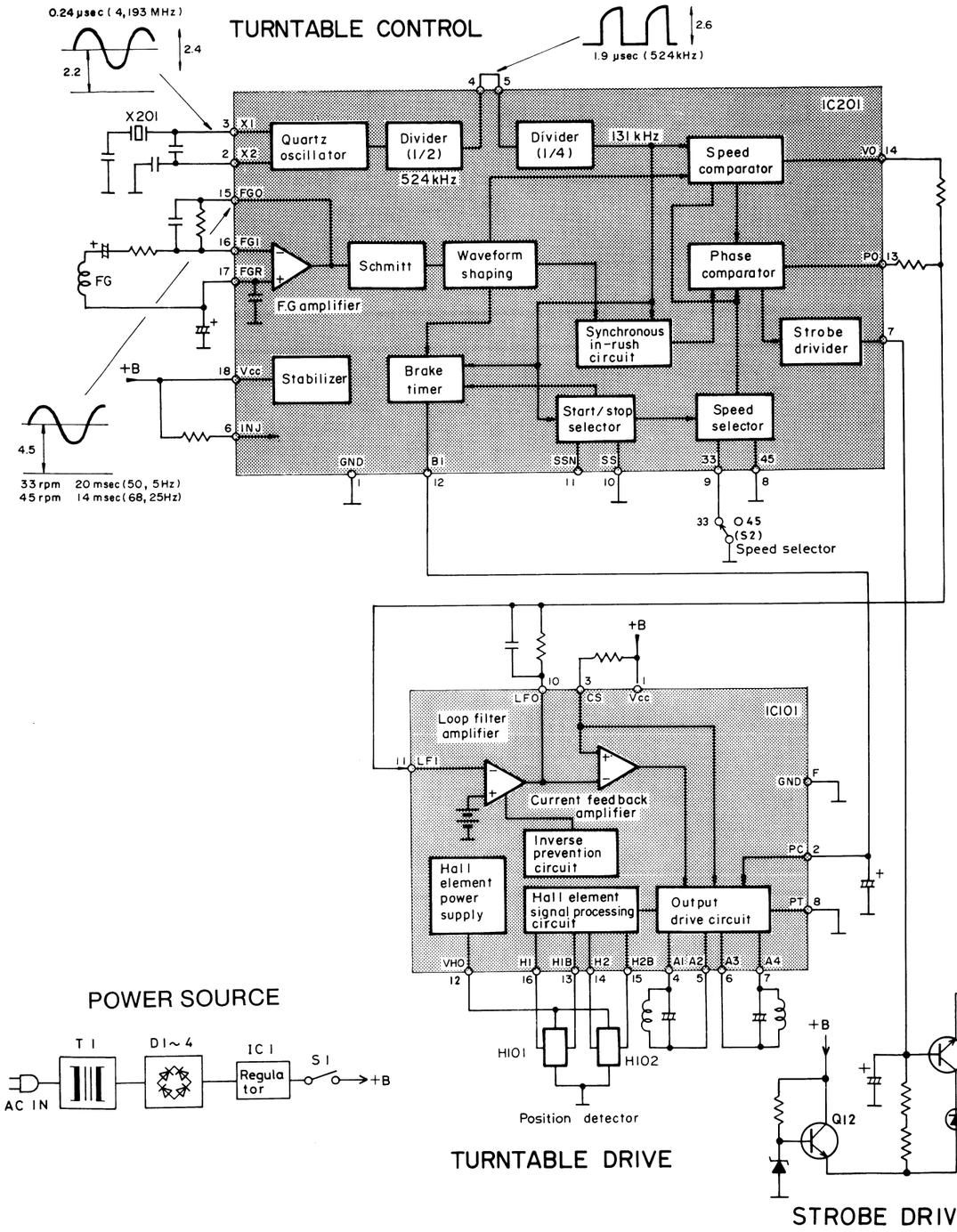
FUSIBLE REMPLACEMENT

⏛ Le symbole qui se trouve près du fusible singifie un fusible à action rapide. Pour une protection continue contre les risques d'incendie, n'utiliser que des fusibles du même type. Se rapporter au symbole pour la valeur des fusibles.

• Terminal guide of IC's, transistor and diodes.



■ BLOCK DIAGRAM



■ MEASUREMENTS AND ADJUSTMENT

ARM-LIFT HEIGHT

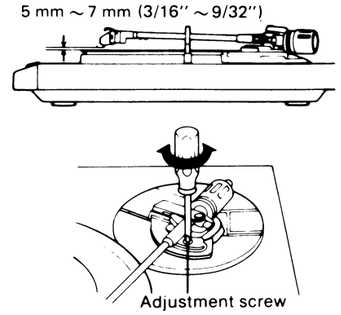
The arm-lift height (distance between the stylus tip and the record surface when the cueing control is at the " ▼ " position) has been adjusted at the factory to approximately 5 to 7 mm (3/16" ~ 9/32"). If the clearance is too narrow or too wide, turn the adjustment screw clockwise or counterclockwise.

Clockwise rotation

– distance between the record and stylus tip is decreased.

Counterclockwise rotation

– distance between the record and stylus tip is increased.

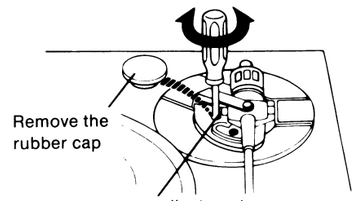


AUTOMATIC START POSITION

If the stylus does not land in the lead-in groove, adjust as follows.

1. Clamp the tonearm to the arm rest.
2. Remove the rubber cap.
3. Turn the screw with a screwdriver, clockwise or counterclockwise as necessary.

If the stylus tip sets down too far in the recorded groove,
—turn counterclockwise.
If the stylus tip sets down outside of the record,
—turn clockwise.
Adjust so the stylus tip lands 1—2 mm in from the edge of the record.



AUTOMATIC RETURN POSITION

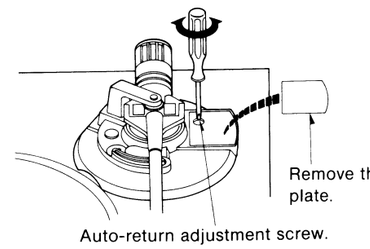
(Remove the plate.)

Make this adjustment if the tonearm doesn't return automatically to the arm rest, or if it returns before the tune ends.
If the tonearm tends to return to the arm rest before the play has finished.

– turn counterclockwise.

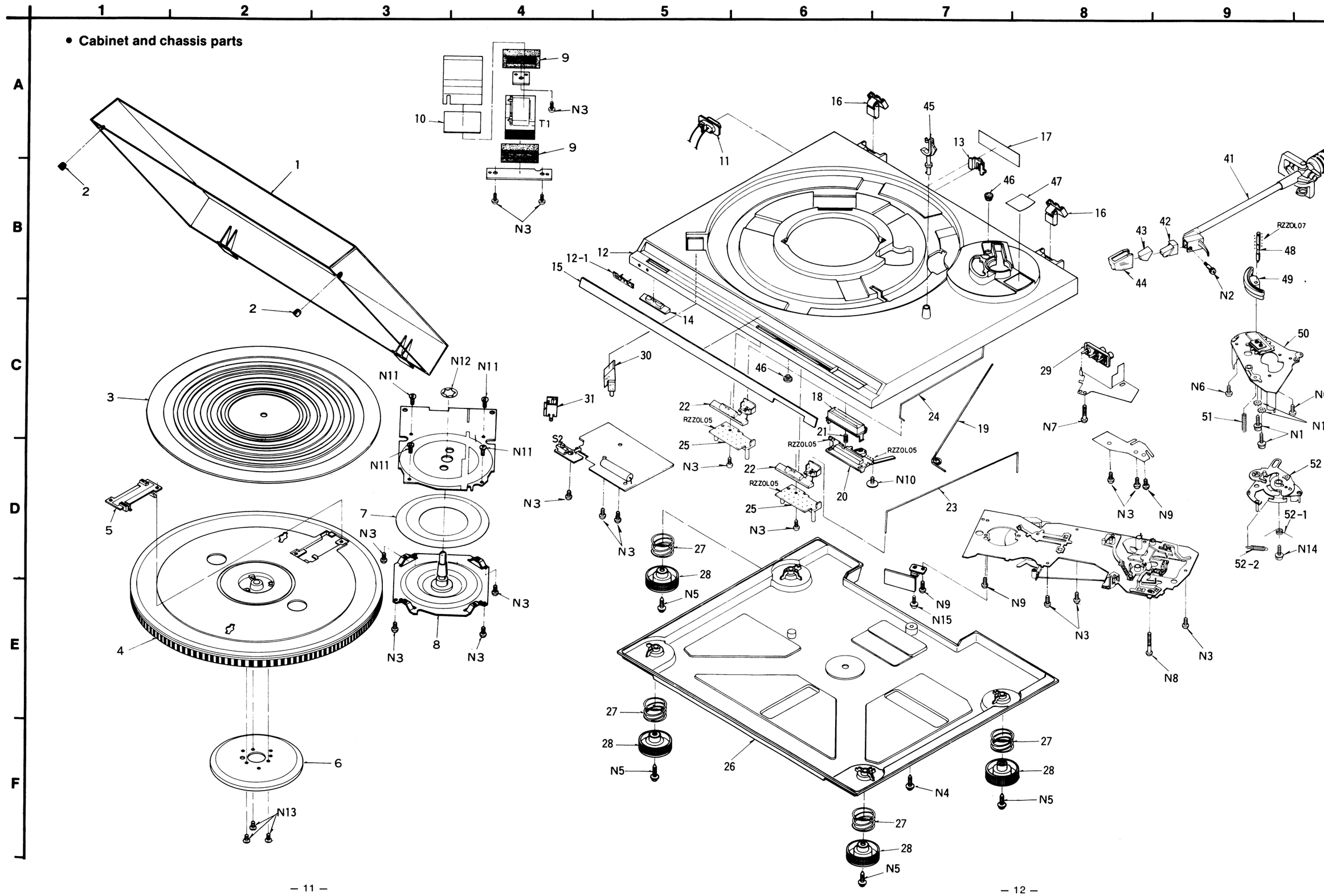
If the tonearm fails to return after the final groove.

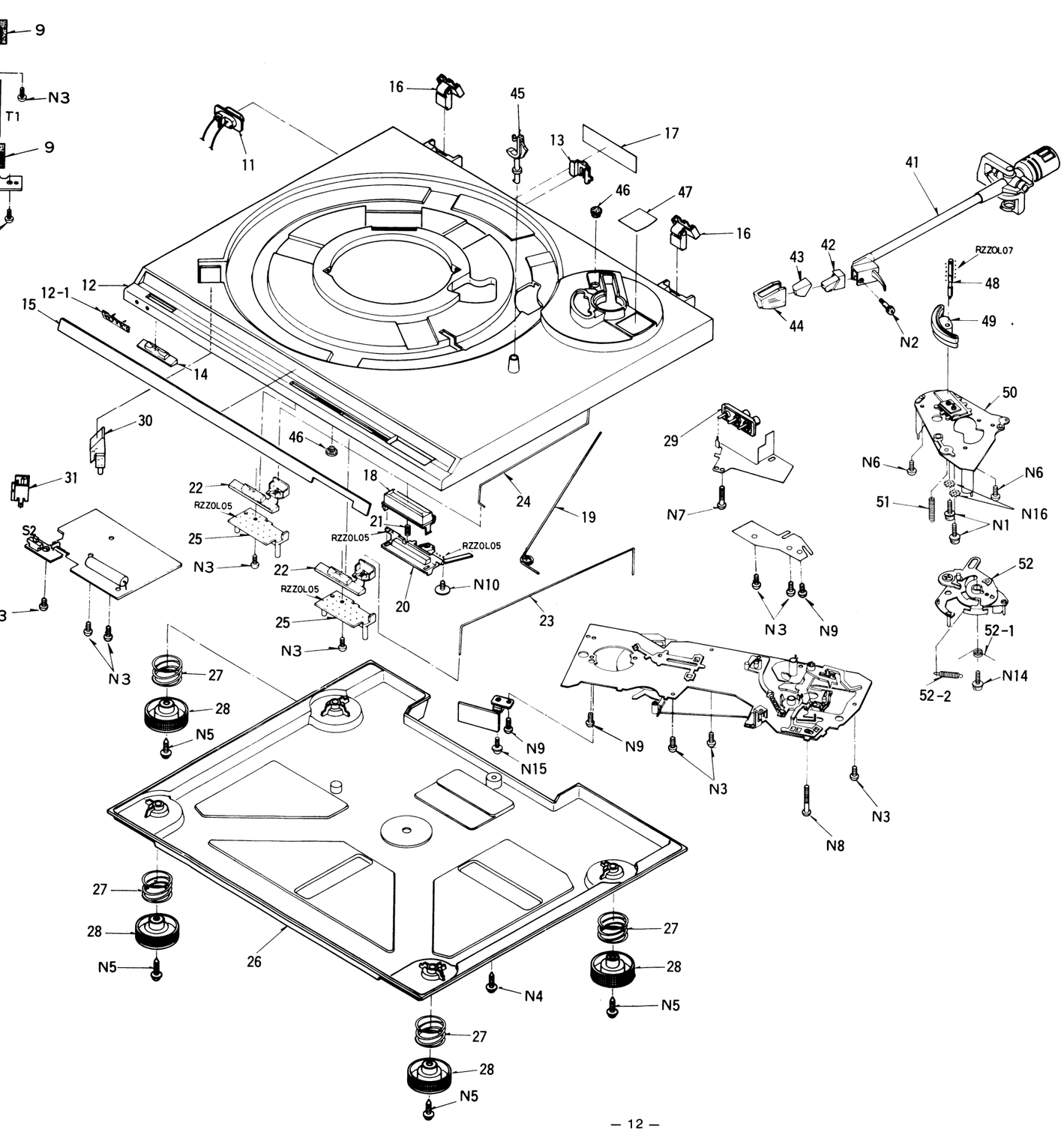
– turn clockwise.



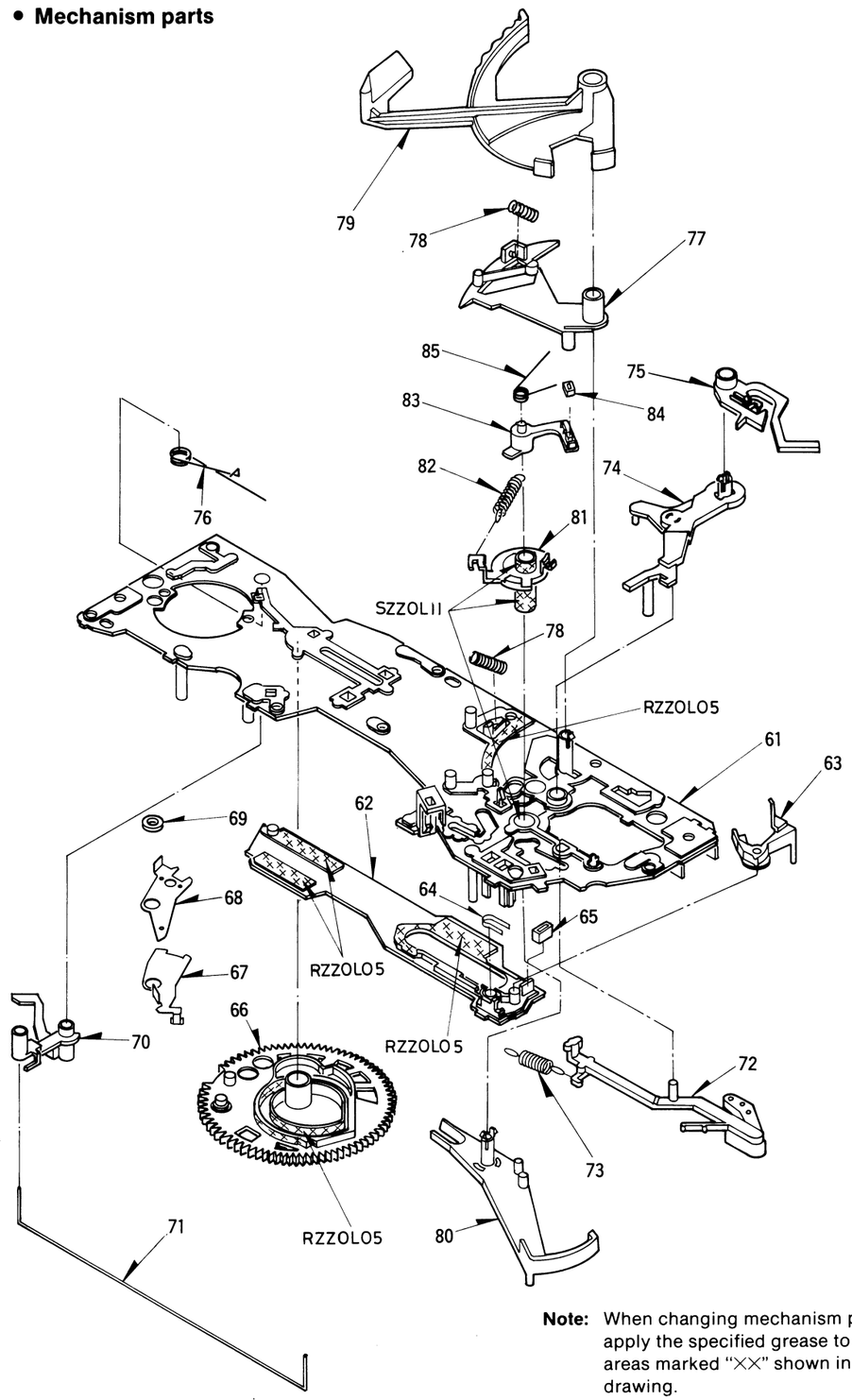
■ EXPLODED VIEW

• **Cabinet and chassis parts**





• Mechanism parts



Note: When changing mechanism parts, apply the specified grease to the areas marked "××" shown in the drawing.

■ REPLACEMENT PARTS LIST

Notes:
1. Part numbers are indicated on most mechanical parts. Please use this part number for parts orders.
2. Important safety notice:
   Components identified by ⚠ mark have special characteristics important for safety.
   When replacing any of these components, use only manufacturer's specified parts.
3. Ⓚ-marked parts are used for black type only, while ○-marked parts are used for silver type only.
4. Parts other than Ⓚ- and ○-marked are used for both black and silver types.
5. Bracketed indications in Ref. No. columns specify the area. Parts without these indications can be used for all areas.
6. The "Ⓢ" mark is service standard parts and may differ from production parts.
7. The parenthesized numbers in the column of description stand for the quantity per set.

Color	Areas
(S) (K)	[M] ..... U.S.A.
(S) (K)	[MC] ... Canada.
(S) (K)	[E] ..... Switzerland and Scandinavia.
(S) (K)	[EK] .... United Kingdom.
(S) (K)	[XL] .... Australia.
(S) (K)	[EG] ... F.R. Germany.
(S) (K)	[EB] .... Belgium.
(S) (K)	[EH] .... Holland.
(S) (K)	[EF] .... France.
(S) (K)	[Ei] ..... Italy.
(S) (K)	[EC] .... Czechoslovakia.
(S) (K)	[XA] .... Asia, Latin America, Middle Near East, Africa and Oceania.

Ref. No.	Part No.	Description
INTEGRATED CIRCUITS		
IC1	AN78M12	Regulator
IC101	AN6638	Turntable Drive
IC201	AN6683N	Turntable Control
TRANSISTORS		
Q11, 12	2SC3311	Strobe Drive
DIODES		
D1~4	⚠SVD1SR35200V	Rectifier
D11	SVDBR5505SA	Strobe, LED
D16	MA4075	Zener, 7.5V
RESISTORS		
R11	ERDS2TJ332	Carbon, 1/4W, 3.3kΩ, ±5%
R12	ERDS2TJ820	Carbon, 1/4W, 82Ω, ±5%
R14	ERDS2TJ272	Carbon, 1/4W, 2.7kΩ, ±5%
R15	ERDS2TJ471	Carbon, 1/4W, 470Ω, ±5%
R16	ERDS2TJ221	Carbon, 1/4W, 220Ω, ±5%
R17	ERDS2TJ471	Carbon, 1/4W, 470Ω, ±5%
R19	ERDS2TJ332	Carbon, 1/4W, 3.3kΩ, ±5%
R103	ERDS2TJ104	Carbon, 1/4W, 100kΩ, ±5%
R104	ERX1ANJU1R8	Metal Film, 1W, 1.8Ω, ±5%
R105	ERDS2TJ150	Carbon, 1/4W, 15Ω, ±5%
R201	ERDS2TJ273	Carbon, 1/4W, 27kΩ, ±5%
R202	ERDS2TJ394	Carbon, 1/4W, 390kΩ, ±5%
R203	ERDS2TJ680	Carbon, 1/4W, 68Ω, ±5%
R204	ERDS2TJ151	Carbon, 1/4W, 150Ω, ±5%
R205	ERDS2TJ223	Carbon, 1/4W, 22kΩ, ±5%
R207	ERDS2TJ102	Carbon, 1/4W, 1 kΩ, ±5%
R208	ERDS2TJ680	Carbon, 1/4W, 68Ω, ±5%

Ref. No.	Part No.	Description
CAPACITORS		
C1	ECQG1223KZ	Polyester, 100V, 0.022μF, ±10%
C2, 3	⚠ECKR1H223ZF	Ceramic, 50V, 0.022μF, $^{+80}_{-20}$ %
C4	ECEB1VU102	Electrolytic, 35V, 1000μF
C5, 6	ECFR1H104ZF	Ceramic, 50V, 0.1μF, $^{+80}_{-20}$ %
C11	ECEA1HU2R2B	Electrolytic, 50V, 2.2μF
C12	ECFR1H104ZF	Ceramic, 50V, 0.1μF, $^{+80}_{-20}$ %
C101	ECEA1CU330B	Electrolytic, 16V, 33μF
C102	ECEA1HUR22B	Electrolytic, 50V, 0.22μF
C103	ECQV05274JZ	Polyester, 50V, 0.27μF, ±5%
C105, 106	ECEA1AN470S	Non Polar Electrolytic, 10V, 47μF
C107	ECEA1HU010B	Electrolytic, 50V, 1μF
C201	ECEA0JU470B	Electrolytic, 6.3V, 47μF
C202	ECEA1HUR22B	Electrolytic, 50V, 0.22μF
C203	ECQM1H683KV	Polyester, 50V, 0.068μF, ±10%
C204	ECCR1H101JC	Ceramic, 50V, 100PF, ±5%
C206	ECCR1H330JC	Ceramic, 50V, 33PF, ±5%
C207	ECEA0JU470B	Electrolytic, 6.3V, 47μF
C208	ECEA1AU221B	Electrolytic, 10V, 220μF
POWER TRANSFORMER		
T1 [M]	⚠SLT48DTL3A	Power Source
T1 [MC]	⚠SLT48DT11C	Power Source
T1 [EK, XL]	⚠SLT48DTE13E	Power Source
T1 [XA]	⚠SLT57DT7E	Power Source
T1 [other]	⚠SLT48DT10E	Power Source
SWITCHES		
S1	SSPB4	Start/stop
S2	SFDSHSW0834	Speed Selector
S901 [XA] only	⚠SFDSHXW225-3	Voltage Selector

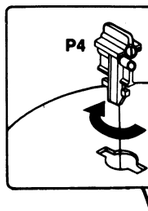
Ref. No.	Part No.	Description
FUSES		
F1 [MC]	⚠XBA2F08NU100	250V, 800mA
F1 [except M, MC]	⚠XBA2C05NTB0	250V, T500mA
F902 [XA] only	⚠XBA2C016TB0	250V, T160mA
HALL ELEMENTS		
H101, 102	OH-003	Turntable Position Detector
OSCILLATOR		
X201	SVFCSA419MGF	4.19MHz

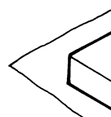
Ref. No.	Part No.	Description
CABINET AND CHASSIS PARTS		
1	SFADZ15R01	Dust Cover (1)
2	SFGZD04N01	Rubber Cushion, Dust Cover (2)
3	SHOB5	Turntable Mat (1)
4	SDOB4	Turntable Platter (1)
5	SHRB15E	Record Size Detector (1)
6	SFTMC07-01E	Magnet (1)
7	SFMGQ34N01	Cover, Stator Coil (1)
8	SFMZQ63M53A	Stator Frame Ass'y (1)
9 [XA]	SFGCC05X01	Rubber Cushion, Power Transformer (2)
9 [other]	SFGCC05N02	Rubber Cushion, Power Transformer (2)
10	SFGZC05N03	Rubber Cushion, Power Transformer (1)
11	⚠SJSB4	AC Socket (1)
12 ○	SKMLDD33-SM	Cabinet With Badge (1)
12 Ⓚ	SKMLDD33-KM	Cabinet With Badge (1)
12-1 ○	SGB628	Badge (1)
12-1 Ⓚ	SGB628-1	Badge (1)

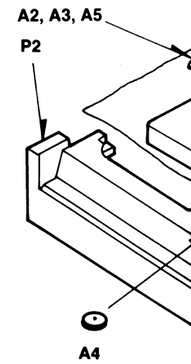
Ref. No.	Part No.	Description
46 ○	SFGK170-01	Cap (2)
46 Ⓚ	SFGK171F01	Cap (2)
47	SGXB230	Plate, Canceller (1)
48	SFXJBD2N51	Shaft, Tonearm Lifter (1)
49	SFUMBD2N51	Tonearm Lifter (1)
50	SHRB20E	Arm Base (1)
51	SUSB1	Spring, Tonearm Lifter (1)
52	SUKB7E	Plate, Pick-up Fixing (1)
52-1	SUSB19	Spring (1)
52-2	SFQHB63M57	Spring (1)
MECHANISM PARTS		
61	SUKB9	Mechanism Plate (1)
62	SUKB14	Plate, Drive (1)
63	SFUMB63M51	Plate, Motive (1)
64	SUSB36	Spring (1)
65	SFGZB63M51	Rubber, Return (1)
66	SDGB5	Main Gear (1)
67	SFURZ15R51	Rink (A), Main Gear (1)
68	SUWB17	Rink (B), Main Gear (1)
69	SFUMZ15R56	Holder, Rink (1)
70	SUWB8	Lever, Actuating (1)
71	STZB10	Rod, Actuating (1)
72	SHRB21	Lever, Cut (1)
73	SUSB21	Spring, Cut Lever (1)
74	SHRB22	Lever, Switch (A) (1)
75	SHRB23	Lever, Switch (B) (1)
76	SUSB27	Spring, Gear Setting (1)
77	SHRB24	Sub Plate, Index (1)
78	SUSB28	Spring (2)
79	SHRB25	Plate, Index (1)
80	SHRB26	Lever, Repeat (1)
81	SDGB4	Cam, Cueing (1)
82	SUSB26	Spring, Cueing (1)
83	SHRB46	Lever, Brake (1)
84	SHGB13	Felt, Brake Lever (1)
85	SUSB25	Spring, Brake (1)
SCREWS AND WASHERS		
N1	SNSB1	Screw (2)
N2	SFPEV0Q601	Screw, Cartridge (1)
N3	XTV3+10G	Screw, ⊕3×10 (17)
N4	XTW3+14QFYR	Screw, ⊕3×14 (1)
N5	SNSB4	Screw (4)
N6	XTV3+8G	Screw, ⊕3×8 (2)
N7	XTV3+20J	Screw, ⊕3×20 (1)
N8	XTV3+30J	Screw, ⊕3×30 (1)
N9	XTV3+8J	Screw, ⊕3×8 (3)
N10	SFXGQ06N01	Screw (1)
N11	XTV3+6J	Screw, ⊕3×6 (4)
N12	SFXWC06N02	Washer (1)
N13	XTN3+6J	Screw, ⊕3×6 (3)
N14	SFXGQ34N02	Screw (1)
N15	XYN3+C5S	Screw, ⊕3×5 (1)
N16	XWC3B	Washer (2)

Ref. No.	Part No.	Description
ACCESSORIES		
A1 [M]	SQX53808	Instruction Book (1)
A1 [MC]	SQXLDD33-SMC	Instruction Book (1)
A1 [EK]	SQX53812	Instruction Book (1)
A1 [XL, XA]	SQX53810	Instruction Book (1)
A1 [EG]	SQX53814	Instruction Book (1)
A1 [EF]	SQX53813	Instruction Book (1)
A1 [Ei]	SQX53815	Instruction Book (1)
A1 [other]	SQXLDD33-SE	Instruction Book (1)
A2	SFDHBD2N01	Output Cord (1)
A3	SFDLJ11N01E	Ground Wire (1)
A4	SFWE212-01	45 Adaptor (1)
A5 [M, MC]	⚠SJA170	AC Cord (1)
A5 [EK]	⚠SFDAC05G02	AC Cord (1)
A5 [XL]	⚠SJA163	AC Cord (1)
A5 [XA]	⚠SJA168-1	AC Cord (1)
A5 [other]	⚠SFDAC05E02	AC Cord (1)
A6 [XA] only	⚠SJP9215	Adaptor (1)
PACKING PARTS		
P1 [MC, EF] ○	SPGB29	Carton Box (1)
P1 [other] ○	SPGB28	Carton Box (1)
P1 [MC, EF] Ⓚ	SPGB31	Carton Box (1)
P1 [other] Ⓚ	SPGB30	Carton Box (1)
P2	SFHHBD3N01	Pad, Left (1)
P3	SFHHBD3N02	Pad, Right (1)
P4	SPEB3	Clamper, Turntable Platter (2)
P5	SFHZB63M01	Clamper, Tonearm (1)
P6	SPPB1	Polyethylene Bag, Dust Cover (1)
P7	SFYH60X60	Polyethylene Bag, Unit (1)
P8	SFYF32A35	Polyethylene Bag, Turntable Mat (1)
P9	SPSB10	Pad, Turntable Mat (1)
P10	SFHZBD2N01	Pad, Tonearm Weight (1)

■ PACKIN







Description
250V, 800mA
250V, T500mA
250V, T160mA
Turntable Position Detector
4.19MHz
ARTS
Dust Cover (1)
Rubber Cushion, Dust Cover (2)
Turntable Mat (1)
Turntable Platter (1)
Record Size Detector (1)
Magnet (1)
Cover, Stator Coil (1)
Stator Frame Ass'y (1)
Rubber Cushion, Power Transformer (2)
Rubber Cushion, Power Transformer (2)
Rubber Cushion, Power Transformer (1)
AC Socket (1)
Cabinet With Badge (1)
Cabinet With Badge (1)
Badge (1)
Badge (1)

Ref. No.	Part. No.	Description
13 ○ [except XA]	SKMB410-0S	Cover (1)
13 Ⓚ [except XA]	SKMB410-0K	Cover (1)
14 ○	SFKTBD2N03	Knob, Speed Selector (1)
14 Ⓚ	SBCB70-0C	Knob, Speed Selector (1)
15	SGXB130-00B	Ornament Plate (1)
16	SFATZ15R01A	Hinge (2)
17 [M]	SGTB60	Name Plate (1)
17 [MC]	SGTB61	Name Plate (1)
17 [E, EC]	SGTB62	Name Plate (1)
17 [EK]	SGTB65	Name Plate (1)
17 [XL]	SGTB97	Name Plate (1)
17 [EG]	SGTB63	Name Plate (1)
17 [XA]	SGTB68	Name Plate (1)
17 [other]	SGTB64	Name Plate (1)
18 ○	SBCB110-0S	Button, Start/Stop (1)
18 Ⓚ	SBCB110-0C	Button, Start/Stop (1)
19	STZB12	Rod, Start/Stop (1)
20	SFUMBD2N01	Base, Start/Stop Button (1)
21	SFQHZ15R01	Spring, Start/Stop Button (1)
22 ○	SBCB61-0S	Knob, Cueing and Repeat (2)
22 Ⓚ	SBCB60-0C	Knob, Cueing and Repeat (2)
23	STZB3	Rod, Cueing (1)
24	STZB9	Rod, Repeat (1)
25 ○	SKMB400-0S	Bracket, Cueing and Repeat Knob (2)
25 Ⓚ	SKMB400-0K	Bracket, Cueing and Repeat Knob (2)
26	SKUB3-1	Bottom Cover (1)
27	SFQCQD3N01	Spring, Insulator (4)
28	SKLB2	Insulator (4)
29	SFDJBD2N03	Jack, Output (1)
30	SFUMBD2N07	Strobe (1)
31	SFUMBD2N06	Holder, LED (1)

TONEARM PARTS

41	SFPAMDD201A	Tonearm Ass'y (1)
42 [except M, MC]	EPC-P30S	★Cartridge (1)
43 [except M, MC]	EPS-30CS	★Stylus (1)
44 [except M, MC]	SFCNC03301	Cover, Stylus (1)
45	SFKUMA1N01E	Tonearm Rest (1)

Ref. No.	Part. No.	Description
46 ○	SFGK170-01	Cap (2)
46 Ⓚ	SFGK171F01	Cap (2)
47	SGXB230	Plate, Canceller (1)
48	SFXJBD2N51	Shaft, Tonearm Lifter (1)
49	SFUMBD2N51	Tonearm Lifter (1)
50	SHRB20E	Arm Base (1)
51	SUSB1	Spring, Tonearm Lifter (1)
52	SUKB7E	Plate, Pick-up Fixing (1)
52-1	SUSB19	Spring (1)
52-2	SFQHB63M57	Spring (1)

MECHANISM PARTS

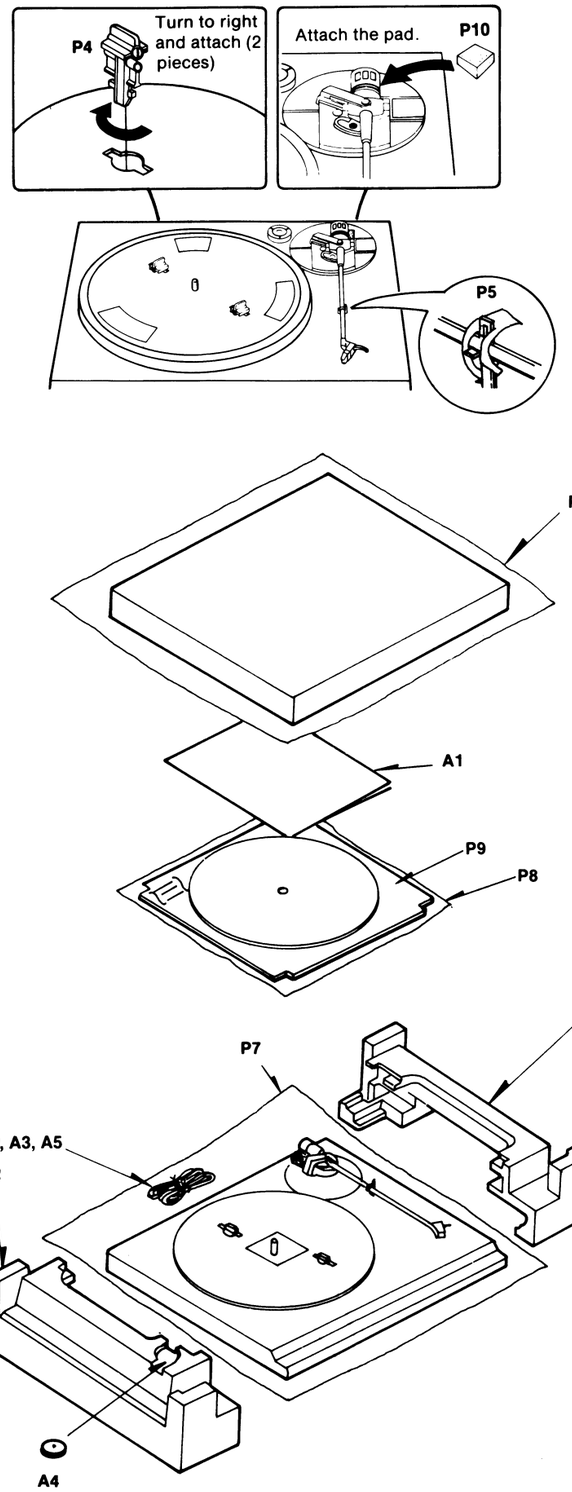
61	SUKB9	Mechanism Plate (1)
62	SUKB14	Plate, Drive (1)
63	SFUMB63M51	Plate, Motive (1)
64	SUSB36	Spring (1)
65	SFGZB63M51	Rubber, Return (1)
66	SDGB5	Main Gear (1)
67	SFURZ15R51	Rink (A), Main Gear (1)
68	SUWB17	Rink (B), Main Gear (1)
69	SFUMZ15R56	Holder, Rink (1)
70	SUWB8	Lever, Actuating (1)
71	STZB10	Rod, Actuating (1)
72	SHRB21	Lever, Cut (1)
73	SUSB21	Spring, Cut Lever (1)
74	SHRB22	Lever, Switch (A) (1)
75	SHRB23	Lever, Switch (B) (1)
76	SUSB27	Spring, Gear Setting (1)
77	SHRB24	Sub Plate, Index (1)
78	SUSB28	Spring (2)
79	SHRB25	Plate, Index (1)
80	SHRB26	Lever, Repeat (1)
81	SDGB4	Cam, Cueing (1)
82	SUSB26	Spring, Cueing (1)
83	SHRB46	Lever, Brake (1)
84	SHGB13	Felt, Brake Lever (1)
85	SUSB25	Spring, Brake (1)

SCREWS AND WASHERS

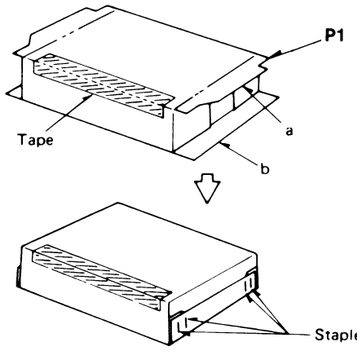
N1	SNSB1	Screw (2)
N2	SFPEV0Q601	Screw, Cartridge (1)
N3	XTV3+10G	Screw, ⊕3×10 (17)
N4	XTW3+14QFYR	Screw, ⊕3×14 (1)
N5	SNSB4	Screw (4)
N6	XTV3+8G	Screw, ⊕3×8 (2)
N7	XTV3+20J	Screw, ⊕3×20 (1)
N8	XTV3+30J	Screw, ⊕3×30 (1)
N9	XTV3+8J	Screw, ⊕3×8 (3)
N10	SFXGQ06N01	Screw (1)
N11	XTV3+6J	Screw, ⊕3×6 (4)
N12	SFXWC06N02	Washer (1)
N13	XTN3+6J	Screw, ⊕3×6 (3)
N14	SFXGQ34N02	Screw (1)
N15	XYN3+C5S	Screw, ⊕3×5 (1)
N16	XWC3B	Washer (2)

Ref. No.	Part. No.	Description
ACCESSORIES		
A1 [M]	SQX53808	Instruction Book (1)
A1 [MC]	SQXLDD33-SMC	Instruction Book (1)
A1 [EK]	SQX53812	Instruction Book (1)
A1 [XL, XA]	SQX53810	Instruction Book (1)
A1 [EG]	SQX53814	Instruction Book (1)
A1 [EF]	SQX53813	Instruction Book (1)
A1 [Ei]	SQX53815	Instruction Book (1)
A1 [other]	SQXLDD33-SE	Instruction Book (1)
A2	SFDHBD2N01	Output Cord (1)
A3	SFDLJ11N01E	Ground Wire (1)
A4	SFWE212-01	45 Adaptor (1)
A5 [M, MC]	⚠SJA170	AC Cord (1)
A5 [EK]	⚠SFDAC05G02	AC Cord (1)
A5 [XL]	⚠SJA163	AC Cord (1)
A5 [XA]	⚠SJA168-1	AC Cord (1)
A5 [other]	⚠SFDAC05E02	AC Cord (1)
A6 [XA] only	⚠SJP9215	Adaptor (1)
PACKING PARTS		
P1 ○ [MC, EF]	SPGB29	Carton Box (1)
P1 ○ [other]	SPGB28	Carton Box (1)
P1 Ⓚ [MC, EF]	SPGB31	Carton Box (1)
P1 Ⓚ [other]	SPGB30	Carton Box (1)
P2	SFHHBD3N01	Pad, Left (1)
P3	SFHHBD3N02	Pad, Right (1)
P4	SPEB3	Clamper, Turntable Platter (2)
P5	SFHZB63M01	Clamper, Tonearm (1)
P6	SPPB1	Polyethylene Bag, Dust Cover (1)
P7	SFYH60X60	Polyethylene Bag, Unit (1)
P8	SFYF32A35	Polyethylene Bag, Turntable Mat (1)
P9	SPSB10	Pad, Turntable Mat (1)
P10	SFHZBD2N01	Pad, Tonearm Weight (1)

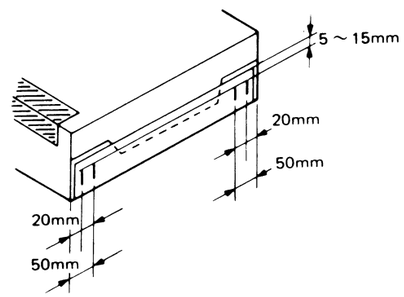
■ PACKING



1. Place the unit (with cushions attached) as illustrated.
2. Fold the flaps according to the line marks.
3. Seal the top with adhesive tape.
   - Use gum tape or adhesive cloth tape of 50mm wide at least.
4. For the edges, first fold the flap "a" and then flap "b", and staple. Remember to staple only flap "b". (Use 15 or 16mm staple.)



- Stapling positions are shown below.



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